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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/711,631

09/29/2004

Arthur I. Watson

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09/29/2006

SCHLUMBERGER RESERVOIR COMPLETIONS
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EXAMINER

FULLER, ROBERT EDWARD

ART UNIT

PAPER NUMBER

3672

DATE MAILED: 09/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/711,631	Applicant(s) WATSON ET AL.	
	Examiner Robert E. Fuller	Art Unit 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9, 14-20, 22, 24-32, 35-38, 40, 41, 44-50 and 52-56 is/are rejected.
- 7) ☒ Claim(s) 8, 10-13, 21, 23, 33, 34, 39, 42, 43 and 51 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: ____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :09/29/2004, 01/21/2005, 08/23/2006.

DETAILED ACTION

Claim Objections

1. Claim 22 is objected to because of the following informalities: There is a lack of antecedent basis for "the journal bearing." Examiner suggests that "the" be changed to "a." Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7, 9, 16, 17, 19, 22, 26-32, 40, 41, 45-50, and 52-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Arutunoff (US 2,674,194).

Arutunoff discloses a combined protector and motor system for a downhole pump.

With regard to claims 1 and 2, Arutunoff teaches a submersible pump (7), a motive unit having a motor section (6) and a motor protector section (8 and 20), which seals the motor section from surrounding fluid and accommodates thermal expansion of an internal lubricating fluid (column 6, lines 39-60). The motor section comprises a motor section shaft (24), and the motor protector section comprises a motor protector section shaft (27), the two shafts being affixed to each other by a spline connection.

With regard to claim 7, the protector section comprises a protector head having a transverse sand escape hole (47).

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With regard to claims 9, 22, and 41, the motive unit has a journal bearing (67) with a replaceable wear sleeve (68).

With regard to claims 40, 45, and 47, the motor section and the protector section are assembled as a single unit.

With regard to claims 46 and 48-50, Arutunoff discloses bubble sump (40) which contains a dedicated volume (48) which is capable of entrapping released gases and expanding to a volume indicated by the dashed lines in Figure 3. The bubble sump is located within the protector section (8 and 20) and comprises a protector bag (43) located below a framework (36 and 38).

With regard to claims 16, 17, 19, 26-32, and 52-56, Arutunoff discloses the method steps recited in these claims. See column 6, lines 9-38.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 3, 4, 5, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arutunoff in view of Proctor (US 6,868,912).

Arutunoff discloses a motor section shaft and a protector section shaft coupled together via a splined connection.

Proctor discloses a submersible electric pump system. Proctor further teaches two shafts (20, 34) connected together with a coupling (see Figure 4). The connection between the two shafts features a threaded coupling (66) and a cross-bolt connection (58, 60, 62, and 64). Further, the fasteners (62) are inserted "closely" into the apertures (58), which seems to denote an interference fit between the fasteners and the apertures. Therefore, the two shafts of Proctor are coupled together using a combination of a threaded coupling, a cross-bolt connection, and an interference fit.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have connected the two shafts of Arutunoff using means such as a threaded coupling, a cross-bolt connection, or an interference fit, because these types of connections are well known in the art, as evidenced by Proctor. Furthermore, it appears there is no criticality to the type of connection between the two shafts, as evidenced by the fact that applicant has claimed all three types of connections.

6. Claims 6, 20, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arutunoff in view of Shilman (RU 2162272 C1).

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Arutunoff discloses the submersible pump having an electrical connection (34), however, Arutunoff fails to disclose the electrical connection comprising a spring biased terminal block.

Shilman discloses an electrical connection having a spring biased terminal block (16). The terminal block is biased towards a sealed position, so that fluid communication is allowed when the plug is inserted, and not allowed when the plug is not inserted (see page 4 of the translation, paragraph 3).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have replaced the electrical connection module of Arutunoff with the connection module of Shilman, as Shilman's module would have "ensure[d] equalization of pressure in the cavity with that of the liquid within the well. As a result, the cable entry [would not have been] exposed to differential pressure – a factor that [would have ensured] its reliable sealing and long-term serviceability."

7. Claims 14, 24, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arutunoff in view of Berry (US 6,595,295).

Arutunoff fails to disclose the submersible pump comprising a sensor.

Berry discloses an encapsulated submersible pump device which comprises a sensor (80) integral to the motor (72) for measuring properties such as vibration, temperature, pressure, and density (column 3, lines 36-39).

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have added the sensor of Berry to the device of Arutunoff, because the sensor would have been "helpful to the operation of the

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encapsulated pumping device in ways such as using the feedback to optimize production by regulating the encapsulated pumping device and its various components” (column 3, lines 46-49).

8. Claims 15, 25, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arutunoff in view of Scarsdale (US 6,307,290).

Arutunoff discloses one oil communication hole (32) deployed at an angle with respect to the axis of the tool. Arutunoff fails to disclose a *plurality* of oil communication holes.

Scarsdale discloses a submersible downhole pump having a motor section and a motor protector section. Scarsdale further discloses a plurality of oil communication holes (64) deployed at an angle with respect to the axis of the device.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, that the device of Arutunoff could have been outfitted with as many oil communication holes as necessary depending on the length of the tool, as evidenced by Scarsdale. Furthermore, it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

9. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arutunoff.

Arutunoff discloses a journal bearing having a wear sleeve, however, Arutunoff fails to disclose multiple journal bearings each having wear sleeves.

It would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have included a plurality of journal bearings, each having wear sleeves, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Allowable Subject Matter

10. Claims 8, 10-13, 21, 23, 33, 34, 39, 42, 43, and 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references further teach the state of the art with regard to combined downhole submersible motor and protector systems.

US 2005/0087343 – Du et al.

US 2004/0251019 – Howell

US 6,126,416 – Lee

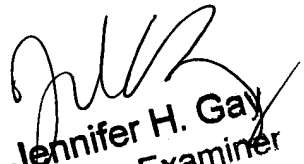
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert E. Fuller whose telephone number is 571-272-0419. The examiner can normally be reached on Monday thru Friday from 8:00 AM - 5:30 PM. The examiner is normally out of the office every other Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

09/20/2006
REF


Jennifer H. Gay
Primary Examiner